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ABSTRACT

A pilot survey of 16 students at the University of South Carolina from across four disability categories evaluated the range of services and adaptive equipment necessary to meet disabled students' needs in an academic library setting. Disability categories represented were: (1) learning disabilities and attention deficit disorders, (2) mobility impairments, (3) visual impairments/blindness, and (4) health impairments. The telephone interview survey examined: level of library use by students with disabilities, need for specific kinds of adaptive computer equipment, and ratings of the helpfulness of special library services. The survey indicated a need for easily accessible adaptive computer equipment, a need for readily available special library services, and better communication between the campus Office of Disability Services and the academic library staff. Analysis is provided by category of disability and specific adaptations (such as screen enlargement, modified keyboards, and braille printer). Results are also discussed in relation to planning for compliance with the Americans with Disabilities Act. The interview protocol is attached. (Contains 19 references.) (DB)

Academic Library Services for Students with Disabilities:

A Survey at the University of South Carolina

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Academic Library Services for Students with Disabilities: A Pilot Survey at the University of South Carolina

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Abstract

A purposive sample of students registered with the Office of Disability Services at the University of South Carolina was surveyed regarding access to library resources and services. The survey was designed to determine a range of services and adaptive equipment necessary to meet the needs of with disabilities in an academic library setting. Sixteen students from across four disability categories participated in the pilot survey. Analysis of survey responses included: level of library use by students with disabilities, need for specific kinds of adaptive computer equipment, and ratings of the helpfulness of special library services. The small size of the sample limited the range of responses obtained. However, the overall results of the survey reveal the need for easily accessible adaptive computer equipment and readily available special library services for students with disabilities. An effort to increase communication between the campus Office of Disability Services and the academic library staff also appears as a area for improvement.

Introduction

People with disabilities in our society have historically been denied access to many of the services, facilities, and opportunities available to the general public. The Americans with Disabilities Act (ADA) of 1990 is landmark legislation aimed at

prohibiting such discrimination. This comprehensive civil rights legislation affects public and private institutions in the United States, including academic libraries. Equal access to employment and to public services for persons with disabilities is mandated by the law. For the purposes of this study, an examination of access to academic library services for patrons with disabilities, as distinct from access to employment or physical access to facilities, will be examined.

Conceptual Framework

Pack and Foos (1992) assert that libraries must offer people with disabilities "equal access to all information, programs, and resources" (255-56) in order to comply with the ADA. The ADA does not offer straight-forward answers concerning how to provide such access. Instead, it intends for individual libraries to examine their service policies in order to ensure accessibility. Due to the diverse needs of patrons with disabilities, decisions about accommodations must often be made on an individual basis (Gunde 1991, 806). Accordingly, one comprehensive plan or checklist for library compliance with ADA is not possible. Each academic library should, however, develop a plan for service to patrons with disabilities based on the needs of the institution's population.

Thomas Cooper Library is the main library for the University of South Carolina. It serves both undergraduate and graduate students at the university. In order to explore the library needs of students with disabilities, the library's ADA Committee held two open meetings during the fall semester of 1994. These meetings were publicized campus-wide and advertised through the university's Office of Disability Services. Due

to low attendance at these open meetings, the ADA Committee decided to explore other means of soliciting opinions from students with disabilities. The following semester, a survey of students with disabilities was undertaken to determine a range of adaptive computer equipment and special services needed at Thomas Cooper Library.

In this context, adaptive computer equipment includes any device that increases accessibility to the library's online catalog, networked CD-ROM databases, Internet tools, or word processing programs. Such adaptations include screen enlargement, screen reading capability, modified keyboards, braille printers, large type printers, and other software for specific needs. Special services for students with disabilities include tasks performed by library personnel to facilitate access to library materials and resources.

Literature Review

Even before the enactment of the ADA on January 26, 1992, academic libraries have worked to meet the needs of students with disabilities through a variety of programs and services. In part, such efforts were undertaken to meet the requirements of the less comprehensive Rehabilitation Act of 1973 . But academic libraries also strove to address the needs of patrons with disabilities because their missions so directed them. Thus, accessibility to persons with disabilities is not a new concern for academic libraries. In fact, enlightening discussions of library services to patrons with disabilities can be found in the literature dating back to the 1970's (Needham 1977). Much of the pre-ADA discussions, however, center on issues of physical access to the library building rather than on access to the library's services

and collections (Gustafson and Langan 1990; Pontau, In Press). Since the passage of the ADA, attention to equal access to services has received increased attention in the professional literature. Works focusing on this particular aspect of accessibility constitute the background for this study.

Library services for students with disabilities vary from institution to institution depending on such factors as student population, institutional mission, and administrative commitment. While a variety of information on serving students with disabilities in the academic library setting exists in the literature, only a small portion of it is based on direct survey input from the students themselves. Information on adaptive equipment, descriptions of adaptations for specific types of disabilities, and overviews of services at individual libraries comprises most of the literature on service accessibility in academic libraries. Mention of student roles in determining adaptations and service needs is generally omitted in such literature. A few examples of surveys for students with disabilities can be found, however, and will be examined in this discussion.

Information on the adaptive equipment available at individual academic libraries provides helpful insight into the kinds of technology used to reach ADA compliance. Often, these descriptions are technical in nature, describing how adaptive hardware and software can interface with OPACs, CD-ROMs, or word processing programs (Hilton-Chalfen 1992; Jones 1993). Kneedler and Sizemore (1993) provide detailed instructions for establishing speech synthesis capabilities with the online catalog and for converting print materials to speech synthesis. Lange (1991) explores the future of

voice technologies in libraries as related to accessibility for patrons with disabilities. All of these works assist academic libraries in discovering the wealth of technology available to attain equal access for all patrons. These works do not, however, include systematic inquiry into student users' opinions of the technology described.

Other researchers provide helpful information on the needs of a particular user group at a given library. McNulty (1993), for example, describes the need for desktop braille publishing in the academic library. His discussion gives background information on production of braille materials and describes the process of providing library materials to one student with deafness and blindness at New York University. Bibliographic instruction for college students who are deaf or hearing-impaired is the subject of Norton's (1992) writing. Her discussion brings to light specialized services and practices to promote equal access for library users who are deaf or hearing impaired. Neville and Datray (1993) discuss at length the need for training in the use of library adaptive technology for students who are blind or visually impaired. While information on these user groups allows a close examination of specific needs, it does not provide an overall picture of the range of services academic libraries should strive to provide for students with disabilities. Nor do such works generally include input from the students using the library services being described.

While much of the literature on services to patrons with disabilities focuses on the adaptations and services themselves, examples of student surveys on academic library needs can be found. Needham (1977) interviewed students with physical disabilities at Florida State University in order to develop a library administrator's

checklist for improving access to the library. A lengthy discussion of problems in using academic libraries, including service issues, is presented in this early look at access for persons with physical disabilities. This study excludes all "persons with learning disabilities, impairments requiring attendant care, and persons whose only handicap is impaired movement but who do not need a wheelchair" (Needham 1977, 273), thus limiting the scope of the survey. The number of people interviewed and the survey instrument are not included in his discussion. Needham identifies seven areas of academic library operation for review by library administrators when considering accessibility to patrons with disabilities: facilities, equipment, materials, services, staff awareness, budgeting, and extra-library relationships.

Broadway and Self (1986) later surveyed a more inclusive group of students at Florida State University to determine what services should be provided. Fifty-three students with visual, hearing, or motor disabilities formed the population for this study. The researchers revealed a number of useful measures to improve library service to students with disabilities including inservice training for staff, designation of a resource librarian, special orientation tours, and supplemental bibliographic instruction. These authors offered information on a broader scope of disabilities than Needham's (1977) study, but they did not include students with learning disabilities. More recently, Donley (1990) published the results of a questionnaire delivered to University of Wisconsin-Stout students with learning disabilities. This study revealed a number of problems encountered by students with learning disabilities in the academic library. Of the ninety 10-page questionnaires distributed to students, only 26 were returned

(Donley 1990, 9). This suggests the need for a more concise instrument and use of the interview technique to obtain a higher participation rate for future studies of this type.

Similarly, a survey of students with disabilities at the University of California-Riverside elicited thirty-four respondents out of a possible 201 students who received surveys (Schiffer 1991, 16). This study deals primarily with physical access to the library facility and access to computer technology, but questions about how library services meet student needs were also included. A brief discussion of the survey results appears, with most respondents reporting high or moderate satisfaction with library services. Student requests for adapted equipment include large print materials, speech output, and adapted keyboards.

Survey at the University of South Carolina

The review of survey literature on academic library access to students with disabilities reveals the need for specific elements to be present in a successful investigation. Namely, input from representatives of a broad spectrum of students with disabilities should be undertaken in order to obtain a useful range of responses. Inquiry into access to Internet and electronic mail resources has not appeared in any of the academic library survey literature to date. A need to study access to these technologies clearly exists in academic libraries today. Additionally, a narrower focus on the service needs of these students would give an academic library the information needed to make immediate improvements in service to students with disabilities. As outlined in the review of Donley's (1990) study, a technique other than mailed questionnaires should be used in order to obtain survey results.

At the University of South Carolina, students with disabilities may register with the Office of Disability Services. Because students with disabilities may choose not to register with this office, a record of all students with disabilities attending the university is not available. For the purposes of this project, the researcher assumed that students requiring significant adaptations in the educational environment are registered. Students must have been registered with the Office of Disability Services during the 1994-95 academic year in order to be eligible for participation in this survey.

The purposive sample of students surveyed for this study was selected by the Assistant Director of the Office of Disability Services. From a comprehensive list of students registered with the office, five students from each of five disability categories were selected randomly for participation in the survey. The five categories included: health impairments/other, hearing impairments, learning disabilities/attention deficit disorders, mobility impairments, and visual impairments/blindness. These categories are the same as those used by the Office of Disability Services for record keeping purposes. Examination of the criteria for meeting the requirements of these categories was not undertaken in this study.

Due to confidentiality requirements regarding students with disabilities, staff members from the Office of Disability Services called the randomly selected students to gain permission for participation in the study. Out of twenty-five students, permission was obtained from seventeen. Eight students could not be reached by staff members from the Office of Disability Services. All of the students contacted agreed to participate in the survey. Out of the seventeen students giving permission, only sixteen

could be reached by the researcher. The one student not reached by the researcher requires TDD equipment for phone communication. Limited access to such equipment affected the researcher's ability to attempt reaching this student during evening hours.

A survey instrument was developed with the goal of determining a range of adaptive equipment and services required to make the library's resources more accessible to students with disabilities (see Appendix 1). The survey instrument contained four sections: Section 1 -- General Information; Section 2 -- General Adaptive Equipment Needs; Section 3 -- Special Adaptive Equipment Needs (for specific disabilities); and Section 4 -- General Service Needs. Students in the health impairments/other category did not require questions about special adaptive equipment. These students were administered only sections 1, 2, and 4 of the survey instrument. A special form of Section 3 was available for each of the other disability categories. The researcher pretested the instrument on a classmate with a disability and made appropriate adjustments before conducting the study.

A telephone interview technique was determined to be the most effective means for conducting the survey. This technique allows clarification of survey questions and invites conversation that may provide additional information of value to the study. The Office of Disability Services provided the names, telephone numbers, and disability categories of the students who gave permission for participation. Telephone interviews were conducted between April 3rd and April 17th of 1995. The researcher was the sole person administering the survey. At the beginning of the interview, respondents were told that survey results would be used in evaluating Thomas Cooper Library's services

to students with disabilities. The researcher identified herself as a graduate assistant in the reference department at Thomas Cooper.

Data Analysis

Table 1 reports whether or not students are aware of special services offered by the library for students with disabilities and those students' reported frequency of library use. Additionally, this table records class level, disability category, and perceptions of how important library resources are to success as a student.

Seventy-five percent of students surveyed indicated that the library is very important to success as a student. Twenty-five percent felt that library resources are somewhat important to school success. None of the students responded that the library was not important to school success. From this data, it is evident that use of the library is perceived to have some measure of importance among the students surveyed. Accordingly, 50% of the students polled use the library three times per week or more and 19% use it at least once each week. This accounts for 69% of the total sample. The remaining 31% report using the library only a few times per semester.

Eight out of the 16 students, or 50% of the sample, indicated knowledge of special services available in the library. Of these students, all eight knew that special help from reference librarians was available. Two respondents indicated knowledge of the library's special resource room and adaptive equipment. Three students mentioned special arrangements for photocopying materials as a special service they use in the library. Help with book retrieval was indicated by four people surveyed. Interestingly, one blind student, in his third semester at the University of South Carolina, reported

having used library resources only once -- as part of a class tour. Further conversation revealed that this student lacked knowledge about the resources available to assist students with visual impairments or blindness in the library. This same student indicated that library services are very important to school success. Another student with a visual impairment reported using the library three times per week or more, while also indicating no knowledge of special services available there. Further questioning revealed that this student uses the computer lab almost daily for word processing, but has only used other library resources a few times. Although a generalization can not be made by the data reported here, these cases raise the question of whether or not use of the library by students with disabilities is limited by lack of knowledge about special services available to them.

The library's online catalog, USCAN, was the resource most used by students in this study. Ninety-four percent of students surveyed have used USCAN. CD-ROM access followed with 75% of students reporting use of these databases. Fifty-six percent of students reported having used the computer lab for word processing activities. Six of the sixteen students surveyed reported having used electronic mail and the Internet in the library. Four of those students have also used these resources from sites outside the library.

TABLE 1: Comparison of Library Use Variables by Disability

Class Level	Aware of Services	Library Use	Importance
Vision			
Graduate	Yes	1 time/week	Very
Freshman	No	Few times/semester	Very
Graduate	Yes	3 times/week	Very
Graduate	Yes	1 time/week	Very
Senior	No	3 times/week	Very
Mobility			
Senior	Yes	3 times/week	Very
Graduate	No	3 times/week	Somewhat
Senior	Yes	Few times/semester	Very
Freshman	Yes	3 times/week	Very
Graduate	Yes	3 times/week	Very
LD/ADD			
Graduate	No	Few times/semester	Somewhat
Junior	No	Few times/semester	Somewhat
Junior	No	Few times/semester	Somewhat
Freshman	No	3 times/week	Very
Health/Other			
Senior	No	1 time/week	Very
Junior	Yes	3 times/week	Very

Students in different disability categories reported various problems with library computer resources. As expected, all surveyed students with visual impairments reported difficulty in seeing terminal screens and output from printers. Difficulty using the regular keyboard and finding terminals at an appropriate height for wheelchairs were problems encountered by students with mobility impairments. Students with learning disabilities/attention deficit disorders most often reported trouble finding what

they were looking for in the online catalog. Of the students in the health/other category, one reported similar difficulty with finding desired resources using USCAN. Of the sixteen students surveyed, six prefer use of the keyboard over a mouse for performing computer operations. Four students report no strong preference between the two options and five students prefer to use the mouse.

As a follow-up to questions about difficulty with computer equipment, students were asked to rank certain equipment adaptations on the extent to which they were required to meet their specific needs. Students were asked to respond according to the following scale: definitely needed, somewhat needed, or not needed. Table 2 illustrates the range of responses to questions about specific adaptive equipment.

The responses for students with visual impairments demonstrate a split between the need for screen and print enlargement and the need for speech output and braille. This is due to the fact that three of the students interviewed had low vision and the other two students were totally blind. Four of these students, however, all indicated a need for an optical character recognition device. As indicated in Table 2, all three students with low vision reported that screen enlargement, adjustable color monitors, and a Closed Circuit Television (CCTV) for enlarging and viewing text were definitely needed in the library. One student indicated a preference for a larger monitor paired with screen enlargement capability. This adaptation would enable students to view more of the enlarged text on the monitor at one time. Another student highlighted the need for placement of a CCTV in the library's main reference area for improved access to the reference collection.

Two of the students with mobility impairments surveyed indicated a need for adaptive keyboard equipment. A key guard to improve accuracy and to make keys easier to isolate was suggested by one student. Another student indicated that a track ball device is easier to operate than a mouse for word processing functions. Availability of an ergonomic keyboard on at least one terminal was suggested. And two students suggested special software for word processing that allows easier access for students who have use of only one hand for typing.

Students with learning disabilities/attention deficit disorders indicated the fewest needs for adaptive computer equipment. While one student indicated that screen enlargement and a large type printer would be somewhat helpful, four of these five students indicated the need for adjustable color monitors. Interestingly, three of four students with learning disabilities/attention deficit disorders indicated a strong dislike for searching USCAN based on unsuccessful trials in the past. Statements about difficulty with this resource were noticeably more fervent than those made by individuals in any other disability group surveyed. Comments included, "I can't stand it," "I never find what I need," and "I don't know what words to use."

TABLE 2: Adaptive Equipment: Number of Students for Each Response

Vision

Adaptation	Definitely Needed	Somewhat Needed	Not Needed
Screen enlargement	3	0	2
Large print printer	0	3	2
CCTV	3	0	2
Adjustable color monitors	3	0	2
Screen reader	3	0	2
Optical scanner	4	0	1
Braille printer	1	1	3

Mobility

Adaptation	Definitely Needed	Somewhat Needed	Not Needed
Modified keyboard	2	0	3
Special software	2	2	1
Screen enlargement	0	2	3
Optical scanner	1	1	3

LD/ADD

Adaptation	Definitely Needed	Somewhat Needed	Not Needed
Screen enlargement	0	1	3
Large type printer	0	1	3
Screen reader	0	0	4
Optical scanner	0	0	4
CCTV	0	0	4
Adjustable color monitors	2	2	0

Ten students indicating a need for adaptive computer equipment were asked where they would prefer to use such equipment in the library: integrated with other computer equipment in the reference area and in the computer lab; separately placed in a designated resource room; or available for use in both settings. Five students indicated a preference for having adaptive equipment available in the integrated setting only. Likewise, five students indicated a desire to have equipment available in both the integrated and separate settings. Only one student indicated a desire to only use adaptive equipment in a separate resource room. Students agreed that having adaptive equipment available in a resource room would offer a quiet study environment required for certain tasks. Access to reference librarians and computer lab personnel were the most frequently cited reasons for placing equipment in integrated settings. While many academic libraries tend to use the resource room model for serving students with disabilities, perhaps a more integrated approach would increase awareness of adaptive equipment and improve its accessibility. In an electronic mail communication to AXLIB-L, a listsersv on the subject of access for individuals with disabilities, Donna Pontau discussed placement of adaptive equipment in the library. Pontau, Library Liaison to Patrons with Disabilities at San Jose State University, reported that her library has an adapted workstation placed next to the reference desk. This workstation provided screen reading and screen enlargement. Encouraging interaction between librarians and students with disabilities is a goal of Pontau's strategy (Pontau, 1995).

Finally, students were asked to rate the helpfulness of particular library services. Table 3 outlines the responses of students regarding five specific services selected by the researcher as a result of the literature review.

TABLE 3: Helpfulness of Services: Number of Students for Each Response

Service	Very Helpful	Somewhat Helpful	Not Helpful
Special library tours	11	5	0
Assistance retrieving books	13	3	0
Help with photo-copying	8	2	6
Assistance obtaining books on tape	1	2	13
Resource librarian	9	3	4

Students were overwhelmingly in favor of special tours of the library specifically designed for students with disabilities. Additionally, assistance in retrieving books from the stacks ranked high among special services. None of the students with learning disabilities required help with photocopying materials, but all of the students with mobility impairments indicated that this service would be very helpful. Four of five students with visual impairments indicated a need for this service. An interesting issue concerning the designation of a resource librarian to assist students with disabilities arose during the interview process. The four students who felt this service would not be helpful indicated a concern that other librarians would be unable or unwilling to assist them if the resource librarian was not available. Students who indicated that this

service would be very helpful were equally adamant that a resource librarian would be beneficial in meeting their needs.

At the conclusion of the telephone survey, students had the opportunity to make comments regarding the library's accessibility. Responses mainly centered on building and equipment accessibility for students in wheelchairs and students with visual impairments. The range of responses categorized by type of disability is shown in Table 4.

TABLE 4: Miscellaneous Comments by Students: By Disability

VISION

Comment:

1. Call number labels on bookstacks are too high and too small.
2. Unable to use USCAN terminals outside of the resource room due to need for screen enlargement.
3. Elevators do not beep or tell what floor you are on.
4. Too much glare caused by fluorescent lights in computer lab.

MOBILITY

1. Restrooms difficult for wheelchair access.
2. Unable to get wheelchair between aisles on some floors.
3. Need more wheelchair accessible study tables on main floor and throughout library.
4. Elevator buttons too high to reach from wheelchair.
5. Need wheelchair accessible table in computer lab.
6. Need assistance accessing microfilm due to limited use of hands.
7. Terminals for using electronic mail are too high for wheelchair access.
8. USCAN terminals on many floors are too high for wheelchair access.
9. Elevator doors close too fast.

LD/ADD

1. Would benefit from having a study carrel (even as an undergraduate) for quiet study space.
2. Too many ways to search different databases.

HEALTH/OTHER

1. Library front entrance doors close to fast.

Conclusions

This study involved only a small number of students with disabilities registered with the Office of Disability Services at the University of South Carolina. Therefore, the results can only provide a range of responses specific to the survey respondents. The results cannot be generalized to the entire population of students with disabilities at this institution or at other institutions of higher education. The Americans with Disabilities Act, however, requires that an accommodation be considered even if required by only one student. Thus, the information gained from this survey can be valuable for making decisions regarding adaptive equipment and services for students with disabilities at Thomas Cooper Library.

Thomas Cooper Library currently maintains several pieces of adaptive equipment located in a resource room on Level 5 of the library. This inventory includes a Kurzweil Reading Machine for converting print materials into ASCII text and speech output. USCAN and the library's networked CD-ROM databases are available on one terminal in the resource room in enlarged format through the use of LP-DOS (Large Print DOS). Screen reading software and voice synthesis for USCAN and CD-ROMs are also available on this terminal. Word Perfect is available for use with large print and screen reading capabilities as well. A braille printer is also housed in the resource room and can work with the Kurzweil Reading Machine and with Word Perfect. A black and white Closed Circuit Television (CCTV) is available for enlarging print materials in the resource room. Currently, this resource room is regularly used by approximately three students with visual impairments.

According to survey results, a need does exist to provide screen reading software and accompanying speech synthesis equipment thereby converting the online catalog into a "talking catalog." While such technology is already available in the resource room of the library, all students who might benefit from its use may not know of its existence. Placement of at least one such adapted terminal in a more mainstreamed location in the library would increase knowledge of its use and allow ready access to assistance from library staff. An optical character recognition device (such as the Kurzweil) has also been identified as a need by three students. Once more, this technology is currently available in the library's resource room, but used by only one student on a regular basis. Additionally, screen enlargement software for USCAN, CD-ROMs, and word processing equipment was identified as beneficial for several students with low vision. The presence of a terminal with these adaptations in a more mainstreamed location could increase awareness and use of this valuable resource. Modified keyboards and special software for people using one hand to type was identified as a need by several students and should be investigated for the library. A Closed Circuit Television (CCTV) for immediately enlarging books was suggested by one student as a useful tool to have in the main reference area. Additionally, services rated by the students participating in this study may warrant further investigation and consideration when determining how to best serve students with disabilities in the library.

Planning for ADA Compliance

Ruth O'Donnel (1992) offers a six-step planning model for a comprehensive

approach to implementing the ADA in a library setting. Her model focuses on self-evaluation and the appointment of an ADA Coordinator (both of which are required by the law) as key to any library's compliance with the Americans with Disabilities Act. Thomas Cooper Library has completed steps one and two: 1) Gather information about the ADA and your library, and 2) Appoint an ADA Coordinator. Step 3, also undertaken by Thomas Cooper, involves self-evaluation through holding public fora and conducting surveys of patrons with disabilities. Appointment of a task force or advisory group including students with a variety of disabilities would also be helpful in guiding the library's decisions regarding ADA Compliance. Step 4 requires extensive planning for implementation of services. Goals and objectives for services to students with disabilities and formal policy statements should result from this planning. Actual implementation of services follows the planning stage. Importantly, Stage 6 is the ongoing effort to continue accessible service provision. Services, programs, and facilities should be maintained and monitored for changes in user needs.

Koldenhoven and Koldenhoven (1995) urge academic librarians to coordinate their services with the campus office that provides services to students with disabilities. This approach permits better identification of the survey population and, thus, more accurate identification of student library needs. In an effort to continue to involve students with disabilities in answers regarding library compliance with the ADA, Thomas Cooper staff should continue to work with the Office of Disability Services.

Implications for Research

Currently, Pontau (1995) is active in researching the information seeking and

library use among students with all types of disabilities across the country. Her research-in-progress underscores the pressing nature of academic libraries' need for information about a wide variety of disabilities and broad spectrum of service possibilities.

The survey conducted at the University of South Carolina represents only a small number of students with disabilities. Students with hearing impairments were excluded from the survey entirely. A similar study on a larger scale, perhaps surveying ten percent of students from each disability category, would provide more useful information. An effort to reach more students from each disability category should be undertaken early in the academic year to facilitate student participation. Additionally, after adjustments in services have been made, a follow-up survey should be conducted to assess the usefulness of accommodations. A cooperative effort between library, students, and the campus office for students with disabilities will provide improved response and results for subsequent studies of this nature.

As stated by the Department of Justice, offering only segregated and inferior services "relegates persons with disabilities to second-class status" (DOJ 1991). Michael Gunde (1991) suggests that libraries should be careful not to exercise hypocrisy by preaching outreach and practicing exclusion of individuals with disabilities. The Americans with Disabilities Act clearly intends to change society's attitudes about individuals with disabilities. As institutions with missions embracing education and access to information for all, academic libraries should take a leadership role in fulfilling this goal.

Reference List

Broadway, Marsha D. And Sharon W. Self. 1986. Disabled students in an academic library. *The Southeastern Librarian* 36(4): 84-87.

Department of Justice. Office of the Attorney General. July 26, 1991. *Federal Register* Vol. 56, No. 144: 35703.

Donley, Mary. 1990. *Report of the faculty research initiative grant: Learning-disabled students and academic library services.* University of Wisconsin-Stout. ERIC ED 351 031.

Gunde, Michael. 1991. What every librarian should know about the Americans with Disabilities Act. *American Libraries* 22(9): 806-09.

Gustafson, Julia and Kerry Langan. 1990. *Academic library services and the learning disabled college student.* Paper presented as part of a continuing education workshop, "Library services and the learning disabled," Buffalo, NY, 8 June 1990. ERIC ED 333 899.

Hilton-Chalfen, Danny. 1992. Information technology, campus libraries, and patrons with disabilities: emerging issues and access strategies. *EDUCOM Review* 27 (November/December): 47-49.

Jones, Richard R. 1993. Adaptive computer technology: An overview. *Library Hi Tech* 11(1): 30-33.

Kneedler, William H. And E.J. Sizemore. 1993. Speech synthesis + online library catalog = "talking catalog." *Library Hi Tech* 11(1): 57-64.

Koldenhoven, Linda A. And Darlo J. Koldenhoven. 1995. Academic libraries and students with developmental disabilities. In *Information Services for People with Developmental Disabilities*, eds. Linda Lucas Walling and Marilyn Irwin. Westport, CT: Greenwood.

Lange, Holley R. 1991. Voice technologies in libraries: A look into the future. *Library Hi Tech* 9(3): 87-96.

McNulty, Tom. 1993. Reference service for students with disabilities: Desktop braille publishing in the academic library. *Reference Services Review* 21(1): 37-43.

Needham, William L. 1977. Academic library service to handicapped students. *The Journal of Academic Librarianship* 3(5): 273-79.

Neville, Anne and Tracey Datray. 1993. Planning for equal intellectual access for blind and low-vision students. *Library Hi Tech* 11(1): 67-71.

Norton, Melanie J. 1992. Effective bibliographic instruction for deaf and hearing-impaired college students. *Library Trends* 41(1): 118-25.

O'Donnell, Ruth. 1992. Planning to implement the ADA in the library. In *How Libraries Must Comply with the Americans with Disabilities Act (ADA)*, eds. Donald D. Foos and Nancy C. Pack. Phoenix, AZ: Oryx Press, 32-69.

Pack, Nancy and Donald Foos. 1992. Library compliance with the Americans with Disabilities Act. *RQ* 32(winter): 255-67.

Pontau, Donna. In Press. Lessening stumbling blocks to retention through accessible academic libraries. In *Hidden Abilities in Higher Education*, ed. Linda Lucas Walling. Columbia, SC: Information Center on the Freshman Year Experience.

Pontau, Donna. 1995. Electronic mail message sent to AXLIB-L on February 23, 1995.

Schiffer, Marcia Theise. 1991. Library access survey results. In *Library Services for Persons with Disabilities*. ARL SPEC Kit 176, ed. C. Brigid Welch, 15-22. Washington, DC: Association of Research Libraries.

ACADEMIC LIBRARY SERVCES FOR STUDENTS WITH DISABILITIES

SECTION 1: GENERAL INFORMATION

1. Disability category

_____ Visual
_____ Hearing
_____ Mobility
_____ Learning Disabled
_____ ADD
_____ Emotional
_____ Closed Head Trauma
_____ OCD

2. Sex: _____ Male _____ Female

3. Which term best describes your class level?

_____ Freshman
_____ Sophomore
_____ Junior
_____ Senior
_____ Graduate student
_____ Other; Explain: _____

4. Are you aware of any special services offered by the main library at USC that would help you in accessing library materials and services?

_____ yes _____ no

If **yes**, please describe some of these services:

_____

_____

_____

_____

5. Which statement best describes how often you use the library?

_____ 3 times each week or more
_____ About once each week
_____ A few times each semester
_____ Never use the library

If library user, **go to #6**.

If answers **never**, ask, "Can you tell us why you do not use the library?" Then **go to #7**.

_____

_____

_____

6. What resources do you most often use in the library?

_____

_____

_____

Go to #8

7. When a professor gives you an assignment that requires you to obtain information available in the library what do you usually do?

_____

_____

_____

8. How important do you feel library services are to your success as a USC student?

_____ Very important
_____ Somewhat important
_____ Not important

SECTION 2:
GENERAL ADAPTIVE EQUIPMENT NEEDS

1. What, if any, adaptive computer equipment do you use to access library resources or for word processing in general?

_____

_____

_____

2. Do you prefer using the keyboard or a mouse to perform computer operations?

_____ mouse _____ keyboard _____no preference

3. USCAN is the online catalog available on computer terminals throughout the library. Have you ever used USCAN in the library?

_____ yes _____ no

Have you ever used USCAN from a site outside of the library?

_____ yes _____ no

If yes to either, please describe any difficulty you may have had using USCAN.

_____

_____

_____

4. Computer terminals with CD-ROMs for looking up articles on a variety of topics are available on the main level of the library and in the computer lab. Have you ever used CD-ROMs in the library?

_____ yes _____ no

If yes, please describe any difficulty you have had using CD-ROMs.

_____

_____

_____

5. The computer lab on Level 5 of the library has word processing facilities available for students to use. Have you ever used word processing facilities in the library?

_____ yes _____ no

If yes, please describe any difficulty you may have had using word processing equipment in the library.

_____

_____

_____

6. The library has computer terminals available to access the Internet and electronic mail. Have you ever accessed the Internet or electronic mail in the library?

_____ yes _____ no

If **no,** have you used these applications elsewhere?

_____ Yes _____ no

Where? _____

If **yes,** which ones used: _____ Internet _____ Electronic mail

If **yes**, please describe any difficulty you may have had using Internet or electronic mail in the library.

_____

_____

_____

SECTION 3-A:
ADAPTIVE EQUIPMENT FOR STUDENTS WITH VISUAL IMPAIRMENTS OR BLINDNESS

Please rate the following adaptations on the extent to which they would be helpful in meeting **your specific needs**. The following scale will be used to rate all of the adaptations. I will repeat this scale after each item.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

1. Screen enlargement for USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

2. Large print printers for USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

3. Screen reading capability to give speech output from USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

4. Braille printers for USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

5. Optical scanner (such as the Kurzweil reader) for converting print to speech output or to electronic file format.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

6. Closed-circuit television (CCTV) for enlarging and viewing print materials in the library.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

7. Ability to change screen colors or contrast on computer monitors.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

8. Screen enlargement software for word processing programs.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

9. Large-print printer for output from word processing.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

10. Braille printer for output from word processing.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

Are there any other adaptations that I did not mention that would be helpful? Please list.

SECTION 3-B:
ADAPTIVE EQUIPMENT NEEDS FOR STUDENTS WITH LEARNING DISABILITIES, ATTENTION DEFICIT DISORDER, AND CLOSED HEAD TRAUMA

Please rate the following adaptations on the extent to which they would be helpful in meeting your specific needs. The following scale will be used to rate all of the adaptations. I will repeat this scale after each item.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

1. Screen enlargement for USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

2. Large print printers for USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

3. Screen reading capability to give speech output from USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

5. Optical scanner (such as the Kurzweil reader) for converting print to speech output or to electronic file format.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

6. Closed-circuit television (CCTV) for enlarging and viewing print materials in the library.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

7. Ability to change screen colors or contrast on computer monitors.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

8. Screen enlargement software for word processing programs.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

9. Large-print printer for output from word processing.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

Are there any other adaptations that I did not mention that would be helpful? Please list.

SECTION 3-C:
ADAPTIVE EQUIPMENT NEEDS FOR STUDENTS WITH MOBILITY IMPAIRMENTS

Please rate the following adaptations on the extent to which they would be helpful in meeting your specific needs. The following scale will be used to rate all of the adaptations. I will repeat this scale after each item.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

1. Modified keyboard for accessing USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

2. Screen enlargement for USCAN and CD-ROM workstations.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

3. Optical scanning device (such as the Kurzweil reader) for converting print to speech output or to electronic file format.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

4. Modified keyboard for accessing word processing programs.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

5. Screen enlargement for word processing monitors.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

6. Special software for accessing word processing programs.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

SECTION 3-D:
ADAPTIVE EQUIPMENT FOR STUDENTS WITH HEARING IMPAIRMENTS

Please rate the following adaptations on the extent to which they would be helpful in meeting your specific needs. The following scale will be used to rate all of the adaptations. I will repeat this scale after each item.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

1. TDD equipment available at the library's reference desk.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

2. TDD equipment available at the library's circulation desk.

1	2	3	4
Definitely Needed	Somewhat Needed	Not Needed	Don't Know

SECTION 4:
GENERAL SERVICE NEEDS

1. If you knew that the equipment and individual assistance you needed were available in the library, how likely would you be to use them?

_____ Definitely use
_____ Might use
_____ Would not use

2. Where would you prefer to use library computer resources and equipment ("including adaptive equipment," when appropriate)?

_____ Integrated with other computer stations on the main level and in the computer lab
_____ In a separate, designated room
_____ Both in the integrated setting and in a separate room
_____ No preference
_____ Use regular equipment
_____ Do not use equipment at all

3. What level of instruction would you prefer to have available in learning to use computer equipment in the library?

_____ Individual instruction
_____ Small group instruction
_____ Written instruction manual
_____ Do not require instruction

5. Which of the following would you like on-going individual assistance in using? Check all that apply.

_____ USCAN
_____ CD-ROMs
_____ Word processing programs
_____ Internet
_____ Electronic mail
_____ Adaptive equipment

Please rate the following services on the extent to which they would help you in successfully using the library. The following scale will be used to rate all of the services. I will repeat this scale after each item.

1	2	3
Very Helpful	Somewhat Helpful	Not Helpful

1. Special orientation tours of the library.

1	2	3
Very Helpful	Somewhat Helpful	Not Helpful

2. Assistance in retrieving books from the stacks.

1	2	3
Very Helpful	Somewhat Helpful	Not Helpful

3. Assistance in photocopying materials.

1	2	3
Very Helpful	Somewhat Helpful	Not Helpful

4. Assistance in obtaining books on tape or in other alternative formats.

1	2	3
Very Helpful	Somewhat Helpful	Not Helpful

5. Having one designated resource librarian to assist you with your library needs.

1	2	3
Very Helpful	Somewhat Helpful	Not Helpful

Are there any other issues regarding the library's accessibility that you would like to mention?

Thank you for your valuable time and assistance with this survey!